

February 14, 1957

Air Mail

Dr. Lloyd W. Law
National Cancer Institute
Bethesda 14
Maryland

Dear Lloyd:

One of my former students, Dr. Norton Zinder at the Rockefeller Institute, was visiting this week and during a bull session we concocted the following proposal which we recommend to your earnest consideration:

You have doubtless read of the various studies on the protection of mice from radiation into the host by means of post-radiation inoculations of spleen cells. Following that there were the demonstrations by Lindsay, the group at Harwell, and Avrion Mitchison that this inoculation results in the colonization of the recipient animal with cells from the implant. As a result of the previous radiation dose, the incompatibility responses of the host of block, and heterologous cells are able to survive.

It has occurred to Norton that this principle might have some application in radio therapy for leukemia, the patient being first given a large whole body dose for therapeutic purposes, this being followed by a transfusion of spleen or marrow cells to rescue the host. While this seems to be rather extreme, it appears to me that the same principle might be very valuable in extension of chemotherapy. We have good reason to believe in the similarity of toxic action of most anti leukemic chemicals to the effects of radiation. The proposal is then that such implants of lymphocytogenic tissue might at least mitigate the toxicity of border line doses of the agents now in use, and if this were substantiated one might go even further with more drastic measures. Obviously, such obstacles as the development of drug resistance are closely related to the inadequacy imposed on therapeutic doses by the usual regime.

I can imagine many theoretical questions and objections of detail to this procedure. I hope that this does not obscure the real possibility of a workable principle at least to the extent that it be given some measure of experimental and perhaps even clinical trial. I could think of few people better suited than yourself to judge the merits of a proposal of this kind and to reduce it to action. In fact we are a little sheppish about forwarding it since only the lack of any reference, known to us, on the use of this notion keeps us from believing that it has already been tried. If you do know of any experiments relevant to this idea, I would be very much interested to hear about them.

When are you going to come through on your promise to visit us? Our plans are somewhat hectic during the next several months and I doubt that we will have any opportunity to be visiting the Washington area. For most of

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March we will be in England then returning here we will be leaving the U.S. again for Australia the first of June to return early in October.

With best regards.

Yours sincerely,

Joshua Lederberg

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